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SIXTH MONTHLY NARRATIVE REPORT

15 January 1965

REFERENCE

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Declass Review by NGA.

REPORTING INTERVAL

10 December 1964 - 10 January 1965

OBJECTIVE

The objective of this program is the design, construction, and testing of a prenormalizing system to be used for problems of automatic target identification on aerial imagery. The pre-normalizer will scan the image and, by special filtering techniques, produce a set of measurements which have minimal change with translation and rotation of the specific image on the scene. Testing is to be accomplished on the CONFLEX I Adaptive Pattern-Recognition System.

STATUS OF ACTIVITIES AND ACCOMPLISHMENTS

THE PRENORMALIZING SYSTEM:

The Scanning System. During this interval, work has continued on the fabrication of parts and assembly of the optical scanning system. The spinning mirror has been assembled and is being tested at this time. The 51-slit cylinder has been completed and final shop work is being carried out to enable mounting of

knife-edge slits and illumination sources. The video pick-up arm to be used with the scanner has reached final design. The packaging of the initial stages of photo-multiplier circuitry is taking place. The video amplifier has been completed and debugged. Panel layouts are also in the shops for fabrication.

The Filter Bank. All of the four hundred secondary filters have been assembled on boards and require only the final trimming capacitors, which are being installed at this time. The design of the preliminary filters is complete (except for final trim reactance values) and all parts have been delivered.

Interface With CONFLEX I. Under current assembly, the inter-board wiring for the analog gate system is taking place. The necessary cable harnesses have been assembled and are ready for system integration. The threshold circuit design is complete and all parts necessary for its construction are in-house.

Readout Display. The analog-display lamp-bank has been fabricated, assembled, and cabled. The lamp-driver circuitry is under construction at this time in the wire shop.

Summary. The status of the entire prenormalizing system is summed up by the approximate figures given below:

Design	98 percent complete
Fabrication	85 percent complete
Assembly	25 percent complete

TIME SPENT ON PROJECT (CUMULATIVE TOTAL)

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121 Hours

310 Hours

TECHNICAL AGREEMENTS MADE

None

DIFFICULTIES ENCOUNTERED

None

PROGRAM FOR THE NEXT INTERVAL

Since most electronic and mechanical pieces have been wired or fabricated, the principal effort in the next interval will be assembly. The scanner optics and electronics will be assembled and final wiring of video circuitry will be started. Inter-board wiring and wiring of all cables will be continued during the next interval. In addition, the assembly of the threshold circuit and preliminary filters will be started. At the end of the next interval, some portion of the system will be ready for system integration and test. Schedules are aimed toward completion of the entire system in late February or early March.

SUBMITTED BY

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Project Engineer

Vice President,
Engineering

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